

The racial taxonomy of South-East African populations of the Long-Billed Lark

by

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Although the Long-billed Lark *Certhilauda curvirostris* (Hermann) has enjoyed the attention of many eminent taxonomists, considerable uncertainty still prevails as to the systematic grouping and nomenclature best employed in describing the infraspecific populations as they occur east of long. 25 in southern Africa. The prime reason has been a shortage of material, and although a fair series is now available, the collecting points are rather widely scattered and few in number, especially in the eastern Cape, Orange Free State and the Transvaal. It is also doubtful whether, with recent collecting in Natal and the eastern Cape, all the available material has been brought together and critically analysed. The main impetus towards initiating this study was, however, given by the recent acquisition of a good series of specimens from Thomas River (Cathcart district) which could not be allocated to any known race.

All available South African sources were approached for loans of material of this lark which led to the eventual accumulation of a series of some 200 bird skins.

GEOGRAPHICAL VARIATION

It is expedient at this juncture to review briefly the complete picture of the variation of the Long-billed Lark over southern Africa (excluding South West Africa from where no specimens were seen).

In the assembled series three broad groupings were at once obvious. Each could be likened to a semispecies, as they are all set apart (allopatric) from one another, with no obvious intergradation, each containing a typical galaxy of subspecies with the usual transitional populations.

The first of these three groups is the one occupying the white sands of the largely arid western sea-board, the birds being characterized by their large size, long bill and the sombre coloration of the plumage which lacks the warmer colours of the other two groups. *C.c. curvirostris* (Hermann) and *C.c. falcirostris* Reichenow fall within this first category. The second group is one occupying the coarser substrata and redder soils of the interior, covering a large area from South West Africa through the north-west Cape and the greater part of the Karroo of the central Cape. Races represented here are *C.c. bradshawi* (Sharpe), *C.c. subcoronata* Smith and *C.c. gilli* Roberts. These differ markedly from races of the first group in the warm rufous or vinous upperside feathering, smaller beak and generally less heavily striped undersurface. At the eastern extremities of the Karroo another sudden transition takes place where birds lose the whitish underside, becoming instead distinctly buffy, and with the streaking reduced and confined to the breast. These are the birds of the 3rd group on which attention is here focussed, the recognized races of which bear the names *C.c. semitorquata* Smith, *C.c. daviesi* Gunning & Roberts and *C.c. transvaalensis* Roberts. It is also within this group that the new eastern Cape Province race falls.

It should be pointed out that in the n.w. Cape, about the Richtersveld, *C.c. falcirostris* actually occurs together with *C.c. bradshawi* with no visible signs of interbreeding although it

must be admitted that only one specimen of *C.c. falcirostris* and three specimens of *C.c. bradshawi* were collected together in the same area near Kuboos. However the sharp distinction between the structural and colour facies of abutting populations of these two groups is not so apparent further south along the southern Cape coastal strip and it may yet be shown that *C.c. brevirostris* Roberts here represents a link between group one and two. However, lack of sufficient material, precludes a closer study of the matter at this stage.

Longitude 25° E. could, for convenience, be regarded as a rough line of separation (at least in the Cape Province) between groups two and three and here again intergrading populations are not so far evident. It was no doubt these factors which led Austin Roberts (1936) to treat these three groups as conventional species, although the reasons for regarding *C.c. damarensis* (Sharpe) as a separate species are not so obvious.

Within group three, the character trends are rather typical, showing a decreasing intensity of rufescence from north to south, accompanied by an increase in ventral and dorsal streaking as evidenced by the dark umber feather centres. The most northern race *C.c. transvaalensis* is the race with its dorsal plumage bearing the greatest intensity of rufescence and the darkest buff underside. Coupled with these characters is the extreme suppression of dorsal and ventral streaking, being all but absent in some specimens. Ventral streaking when present is virtually confined to the breast. This race occupies the Transvaal and the more northern and western parts of the Orange Free State and Natal. Moving south from the southern limits of *C.c. transvaalensis* the Long-billed Lark becomes slightly darker and duller dorsally, having a more vinaceous tinge. This is the subspecies known as *C.c. semitorquata*, of which many specimens are also more heavily streaked above and below. This breast streaking in some specimens is rather sagittate in outline. *C.c. semitorquata* enjoys a wide range, occupying the south-eastern parts of the Orange Free State, most of Natal, most of the eastern Cape and Lesotho. Proceeding still further south we find in the eastern Cape a race which in dorsal coloration is no longer clearly rufous but is colder in its range of colours, i.e. closer to the violet-indigo end of the colour spectrum, these being various shades of dull vinaceous. This race is also paler below and with the breast feather markings darker, more prominent and markedly sagittate. Although it seems to occupy the smallest range, this race differs more from *C.c. semitorquata* than *C.c. semitorquata* differs from *C.c. transvaalensis*. To this interesting new subspecies the name *Certhilauda curvirostris algida mihi* is proposed as being descriptive of the overall colder coloration of the plumage.

As will be substantiated later in this paper *C.c. daviesi* is treated here as a subjective synonym of *C.c. semitorquata*. The specimens taken to represent *C.c. semitorquata* by authors recognising the validity of *C.c. daviesi* were all examined personally and found to be indistinguishable from topotypes of *C.c. daviesi*. As far as present evidence will permit it will also be shown that Smith's name *C. semitorquata* cannot be applied to the new race from Thomas River since his descriptions, plates etc. clearly refer to birds known as *C.c. daviesi* or *C.c. semitorquata* by all authors.

HISTORICAL REVIEW

When the nomenclature of these eastern races was reviewed, it became necessary to trace the history of *Certhilauda semitorquata* since the unrestricted nature of the type-locality made it impossible to establish to which population of this lark the name *C. semitorquata* is really applicable. This led to a detailed study of Dr. Andrew Smith's movements about the area concerned during his historic journeys mainly in the 1830's. From the information gleaned it transpired that Smith described *C. semitorquata* no less than three times. His second description of 1836 is generally accepted to-day as the original one, whereas it was actually

described before, in 1833, in the *Proceedings of the S. African Institution*, which were not published separately but appeared at irregular intervals in the *South African Quarterly Journal*. Unfortunately, this 1833 description cannot be traced, and so it is possible that Smith's report to the Institution never got as far as being published in the *S.A. Quarterly Journal*. Smith's third description of *C. semitorquata* appeared in the monumental "*Illustrations of the Zoology of Southern Africa*" 1843 and is a much more detailed account than the 1836 one contained in the "*Report of the Expedition for exploring Central Africa*."

Despite a close examination of these reports, and the very comprehensive volumes covering Smith's activities written by Prof. P. R. Kirby, no conclusive proof exists of just where the original specimens were obtained. Nowhere in Smith's diaries does he refer to *C. semitorquata* and so recourse must be made to the wording of his descriptions and Kirby's maps of his travels. During his outward trip in 1834 from Graaff-Reinet via Colesberg, Smith unfortunately passed exactly along longitude 25° E. which means that if he collected birds while still in the Cape Province they could have been either *C.c. subcoronata* or *C.c. semitorquata*. However once over the Orange River he turned eastwards and here it is certain that he was within the range of *C.c. semitorquata*. On his return trip in 1835 he definitely passed through territory (Hopetown via Britstown to Graaff-Reinet) which could only have yielded specimens of *C.c. subcoronata*. It was no doubt from such specimens collected by him during this leg of his trip that led to his description of *C. subcoronata* in 1843.

Now from Smith's 1836 and 1843 descriptions of *C. semitorquata* we come across the words "rusty white" and "tawny white" to describe the ventral coloration while the words "indistinct brown lines" and "streaked with umber-brown" are used to describe the upper breast. Although "rusty white" is also used to describe the ventral coloration of *C. subcoronata* in the "Illustrations etc", the accompanying plate and description of this race clearly indicate a greater caudad spread of the "umber-brown" streaking characteristic of *C. subcoronata* as opposed to the virtual confinement of these dark markings to the upper breast in *C. semitorquata* as also shown by Smith in both plate and description. Then too the measurements as given by Smith reveal that the overall dimensions and size differences between *C. semitorquata* and *C. subcoronata* approximates closely with that as given in my formal description of the two races in this report. The above data places the bird described as *C. semitorquata* by Smith quite easily into group three of the Long-billed Lark.

To narrow the field down still further the words "rufous" and "intermediate between chestnut-brown and reddish orange" used by Smith to describe the upperside, quite clearly remove any possibilities of the bird being *C.c. algida*, besides which the range given in the 1843 description reads "Inhabits arid plains in the interior . . .". *C.c. algida* inhabits grassy hills not far from the coastal strip.

Although a perusal of the map of Smith's travels quite clearly took him to areas within the range of *C.c. transvaalensis* the fact that in his 1836 description he plainly states that the described bird "inhabits the eastern Province of the colony and the country immediately about the Orange River" reveals conclusively that the bird concerned could only have been *C.c. semitorquata* as this territory falls within the range of this race as we know it to-day.

The last question to be settled is whether there is any distinction between *C.c. semitorquata* as hereunder interpreted and *C.c. daviesi*. Bird skins from the following localities all agree in essential details with topotypes of *C.c. daviesi* from Matatiele:— Excelsior and Meadows (O.F.S.), Mamathes (Basutoland), Rossouw, Jamestown, Burghersdorp, Steynsburg, Cedarville, Glen Grey, Queenstown and Bathurst (eastern Cape), Qudeni, Dannhauser, Dundee and Dargle (Natal), and Wakkerstroom (Transvaal). The range covered by these localities conclusively indicates that the territory traversed by Smith in which he could have collected specimens of *C. semitorquata* combined with the area of distribution as given for *C.c. daviesi*, composes a region from where the available representative collection of bird

skins are all clearly members of one subspecies. *C.c. daviesi* therefore becomes a synonym of *C.c. semitorquata*. Selater (1930) also follows this arrangement, while Mackworth-Praed & Grant (1962) omit *C.c. daviesi* without comment. The matter of restricting the type-locality of *C.c. semitorquata* is not so easily resolved. In order that it might be in the eastern Cape and at the same time be on a point along Smith's route, Colesberg is suggested, although undesirable from the point of view of its being on the extreme periphery of the subspecies' range.

Long-billed Lark populations falling within group 3 can therefore be classified as follows:—

(a) ***Certhilauda curvirostris transvaalensis* Roberts**

Certhilauda semitorquata transvaalensis Roberts, 1936. *Ann. Transvaal Mus.*, 18 (3) : 261. Olifantshoek, Rustenburg dist., western Transvaal.

Description: Upperparts a clear rufous or brick red streaked with fuscous or umber to a much reduced extent, being virtually absent in some specimens. Small spots or streaks of the same colour adorn the upper breast of the underside. The ground colour of the underside is buffy, being a richer reddish brown over the breast and flanks, leaving only the mid-abdominal region and throat paler. There is much individual variation in the intensity of the ventral brown ground colour, also in the degree of development of the breast spotting or streaking. The neck band is not particularly prominent and is only slightly paler or greyer than the general dorsal coloration.

Measurements:

<i>Males:</i>	wing	101·0–107·0 (104·3) mm.	12 specimens
	tail	72·4–79·0 (75·4) mm.	8 specimens
	bill	22·5–27·6 (26·1) mm.	12 specimens
<i>Females:</i>	wing	92·0–96·0 (93·7) mm.	6 specimens
	tail	64·9–73·0 (69·3) mm.	4 specimens
	bill	20·9–22·6 (21·9) mm.	5 specimens

Material: 21 specimens, comprising 2 from the Orange Free State (Bloemfontein and Fauresmith), 5 from Natal (Newcastle, Dundee and Dannhauser) and 14 from the Transvaal (Pretoria, Belfast, Carolina, Johannesburg and Wakkerstroom).

Range: Parts of the Transvaal and adjacent northern areas of Natal and northern, central and western Orange Free State. Localities are few and scattered.

(b) ***Certhilauda curvirostris semitorquata* Smith**

Certhilauda semitorquata A. Smith, 1836, *Rep. Exped. C. Africa*, p. 47: "Eastern Province of the Colony". Restricted to Colesburg, north-eastern Cape Province.
Synonym: *C.c. daviesi* Roberts, 1911. *Ann. Transvaal Mus.* 3 (2): 114: Matatiele, East Griqualand.

Description: Resembles *C.c. transvaalensis* but the umber streaking of the upperparts and the similar markings of the upper breast tend to be better developed in most specimens, those of the breast being bolder and more sagittate in shape. The flanks are also streaked in certain specimens and the throat is often paler. The dorsal rufescence is generally darker and duller, sometimes rather vinaceous or yellowish. Appears to be larger in some measurements than *C.c. transvaalensis* but the wings and especially the tail are prone to considerable abrasion so these differences could be somewhat misleading in spite of having rejected for measurements the particularly worn specimens.

Measurements:

<i>Males:</i>	wing	103·0–110·0 (106·8) mm.	23 specimens
	tail	73·5– 80·8 (78·0) mm.	10 specimens
	bill	24·3– 28·9 (26·1) mm.	22 specimens
<i>Females:</i>	wing	90·5– 96·5 (93·4) mm.	11 specimens
	tail	64·9– 69·8 (66·9) mm.	5 specimens
	bill	20·3– 22·9 (21·6) mm.	11 specimens

Material: 39 specimens from Natal (Dargle, Dannhauser, Dundee, Qudeni), Transvaal (Wakkerstroom), Orange Free State (Meadows & Excelsior) and eastern Cape (Cedarville, Matatiele, Rossouw, Jamestown, Burghersdorp, Steynsburg, Glen Grey, Queenstown and Bathurst). Also 2 specimens from Mamathes near Teyateyaneng, in Lesotho.

Range: Covers a wide territory from the central and north-eastern Cape, the adjacent south-eastern Orange Free State, north to Griqualand East, Lesotho, and the uplands of Natal north to Dundee just penetrating the Transvaal at Wakkerstroom.

Remarks: A good series of specimens from upper Natal reveals a fairly broad belt of overlap or intergradation between *C.c. transvaalensis* and *C.c. semitorquata* from about Dundee to Wakkerstroom (Transvaal). However, the two races are, on the whole, very similar and the differences are best seen in series. The close resemblance between the Bathurst and Burghersdorp specimens can probably be accounted for by virtue of the presence of similar karroid conditions linking Burghersdorp with the western limits of the Albany district; the latter and the Bathurst districts abutting against one another.

(c) Certhilauda curvirostris algida subsp. nov.

Type: Female, adult. Thomas River, Cathcart district, eastern Cape Province, 18th May 1964. In the collection of the East London Museum. E.L.M. No. 10735.

Description: Bears a superficial resemblance to *C.c. semitorquata* but differs markedly in its colder coloration throughout, having none of the warmer reddish hues of *C.c. semitorquata* or *C.c. transvaalensis*. Although the colour of the upperside also varies as in other races most specimens come close to Wood Brown (Pl. XL of Ridgway, 1912) with a cold grey overlay caused by the greyish apical fringes to the feathers. The shaft-streaks are a greyish sepia. The neck-band is paler, greyer and the whitish tipped feathers in this area are more conspicuous than that of *C.c. semitorquata*.

On the underside, *C.c. algida* is also paler, more greyish white with a distinct admixture of grey to the breast in some specimens. According to Ridgway the breast is about Pinkish Buff (Pl. XXIX) grading to Pale Pinkish Buff (same plate) on the throat and lower breast. The sagittate breast markings are darker and more prominent, while the dorsal streaking is also somewhat bolder. In coloration the sexes are similar but differ in size as follows:—

Measurements:

<i>Males:</i>	wing	103·0–112·0 (107·0) mm.	8 specimens
	tail	75·2– 83·7 (78·7) mm.	8 specimens
	bill	24·3– 27·1 (26·0) mm.	7 specimens
<i>Females:</i>	wing	87·0– 96·5 (93·5) mm.	6 specimens
	tail	65·3– 71·8 (69·0) mm.	5 specimens
	bill	21·0– 22·0 (21·5) mm.	5 specimens

Material: 12 specimens in fresh plumage from Thomas River, one from Peelton (King William's Town district) and one from Trappes Valley in the Bathurst district.

Measurements of the type: wing 107·5 mm., tail 79·4 mm., culmen (from base) 26·4 mm.

Range: At present only known from a limited portion of the south-east Cape Province, being restricted perhaps to the moister grassy hills not far from the coast and the adjacent mountains. Could well be found in similar stations in the Transkei. Replaced by *C.c. semitorquata* in the higher mountains of the far interior (i.e. bordering the Drakensberg) and the semi-karoo regions of the eastern Cape.

Remarks: Although the existence of a subspecies occupying this part of the eastern Cape is surprising, the specimens are so distinct that on dorsal coloration alone 100% separation from *C.c. semitorquata* was possible.

NOTE

A perusal of the mensural characters of the races of group 3 reveal a remarkably close similarity of bill length (measured from base) the averages not varying by more than 0·1 mm. in males. In the wing measurements (flattened) the averages are not more than 2·7 mm. apart varying from 104·3 to 107 mm. in males. However upon measuring male specimens just west of longitude 25° E. from Hanover, Philipstown, Graaff-Reinet etc. a marked difference was encountered in that the wings averaged out at 110·5 mm. and the bill length's average was as much as 2·6 mm. in excess of the largest average of any race of group 3. These larger birds known as *C.c. subcoronata* Smith are in turn very similar in size to other birds of the same species found to the south and west (*C.c. gilli* Roberts) and to *C.c. bradshawi* (Sharpe) found along the country bordering the lower Orange River and north into Great Namaqualand. These last mentioned three races therefore according to external characters and measurements clearly form a group of their own as outlined earlier in this report (Group 2). The same holds true for the races of Group 3. The Long-billed Lark could therefore be a possible candidate for the ranks of a superspecies when this matter has been settled from a nomenclatural point of view and when more material from the southern extremities of the species range is made available for study.

The actual measurements of a series of *C.c. subcoronata* from the areas mentioned above plus additional birds from Prieska, Griquatown, van Wyk's Vlei, Graaff-Reinet, Victoria West, De Aar, Deelfontein etc. are as follows:—

<i>Males:</i>	wing	108·5–113·5	(111·2)	mm.	17 specimens
	tail	80·7– 89·9	(86·1)	mm.	14 specimens
	bill	27·5– 30·9	(28·8)	mm.	15 specimens
<i>Females:</i>	wing	97·5– 99·0	(98·2)	mm.	2 specimens
	tail	75·7– 78·0	(76·8)	mm.	2 specimens
	bill	22·7– 24·3	(23·5)	mm.	2 specimens

The remarkable disparity in size between the sexes of the Long-billed Lark is quite conspicuous when specimens are laid out for inspection. It was also notable that males far outnumbered females in most series of the various races.

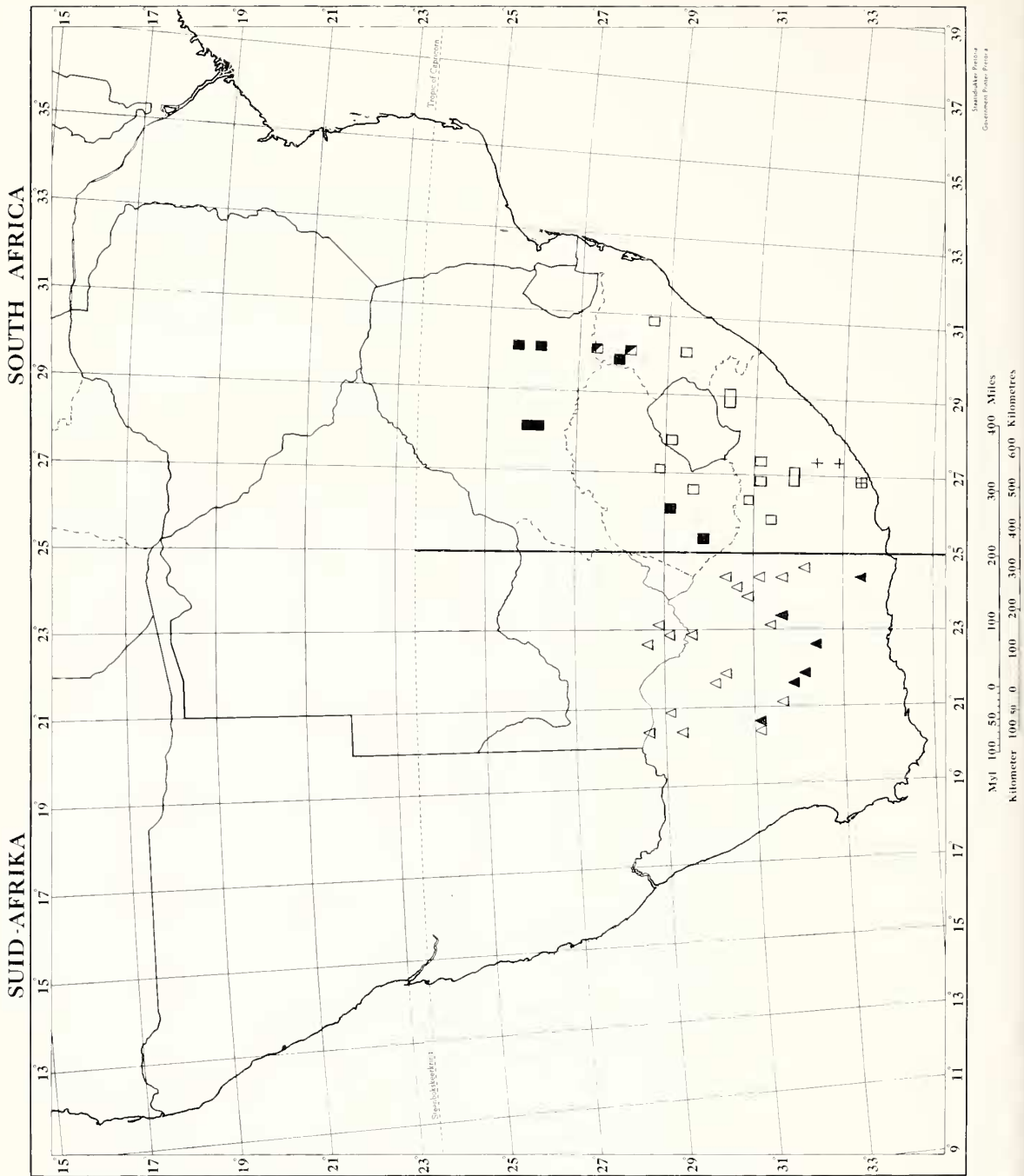
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Map of Southern Africa illustrating the grouping of races of *Certhilauda curvirostris* about long. 25° E. This meridian clearly divides group 2 (triangles) from group 3 (squares etc.).

Group 2 (a) Open triangles represent localities for *Certhilauda curvirostris subcoronata* Smith

(b) Solid triangles represent localities for *Certhilauda curvirostris gilli* Roberts

Group 3 (a) Solid squares represent localities for *Certhilauda curvirostris transvaalensis* Roberts

(b) Open squares represent localities for *Certhilauda curvirostris semitorquata*. Smith

(c) Crosses represent localities for *Certhilauda curvirostris algida*. Quickelberge

Combinations of symbols represent points where two races have been found to occur within the same area covered by the symbol.